

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Previously Presented) A method of searching digital communication signals in a system, the method comprising:

combining a plurality of channel measurements;

providing output of the combining of channel measurements as an added input to the combining a plurality of channel measurements; and

acquiring a signal symbol based on results from the combining of channel measurements without addressing every timing hypothesis individually via a correlation operation.

2. (Currently Amended) The method of claim 1, wherein the combining comprises subjecting an input  $S_1$  and an input  $S_2$  to obtain an output  $S_T$  using a combining operation defined by the equation:

$$S_T = \ln \left( \frac{\frac{e^{S_1+S_2}}{(1+e^{S_1})(1+e^{S_2})} + \frac{e^{-(S_1+S_2)}}{(1+e^{-S_1})(1+e^{-S_2})}}{\frac{e^{S_1-S_2}}{(1+e^{S_1})(1+e^{-S_2})} + \frac{e^{-(S_1-S_2)}}{(1+e^{-S_1})(1+e^{S_2})}} \right).$$

where  $S_1$  is a first channel measurement,  $S_2$  is either a second channel measurement or an output of another combining operation, and  $S_T$  is result of the combining of  $S_1$  and  $S_2$ .

3. (Original) The method of claim 2, wherein the output  $S_T$  becomes an input for another combining operation.

4. (Original) The method of claim 1, further comprising multiplying a received chip by a channel reliability factor and providing the product as a channel measurement.

5. (Previously Presented) A method of searching digital communication signals in a system, the method comprising:

combining a plurality of channel measurements;

providing output of the combining of channel measurements as an added input to the combining a plurality of channel measurements;

acquiring a signal symbol based on results from the combining of channel measurements without addressing every timing hypothesis individually via a correlation operation; and

multiplying a received chip by a channel reliability factor and providing the product as a channel measurement,

wherein the channel reliability factor is determined using:

$$R = 4 \left( \frac{Ec}{No} \right) \left[ \frac{1}{\sqrt{Ec}} \right]$$

where R is the channel reliability factor, Ec is a signal level and No is a noise level.

6. (Original) The method of claim 1, wherein the plurality of channel measurements comprises channel measurements  $S_{n-1}$  through  $S_{n+5}$  where n is an iteration number and spacing of the measurements is 1 chip.
7. (Original) The method of claim 1, wherein determining acquisition of a signal symbol based on results from the combining of channel measurements comprises detecting results from the combining of channel measurements that exceed a predetermined threshold.
8. (Original) The method of claim 7, wherein the predetermined threshold is programmable.
9. (Canceled).
10. (Canceled).
11. (Previously Presented) A method of performing a number of correlations against hypothesized PN sequences from digital communication signals in a system including a plurality of buffers, the method comprising:
  - separating digital communication samples into a plurality of sample groups;
  - performing partial sums on the plurality of sample groups; and
  - combining results of the performed partial sums to obtain a correlation,wherein performing partial sums on the plurality of sample groups comprises

rotating and combining all combinations of the plurality of sample groups, and  
wherein rotating and combining all combinations comprises rotating each sample by all 4 possible phases of a single PN chip, combining for 16 possible combinations for every pair of samples.

12. (Previously Presented) The method of claim 11, wherein the combining results from each of the partial sums comprises a coherent combining.

13. (Original) A method of searching digital communication signals in a system including a plurality of buffers, the method comprising

locating digital samples in an even phase group of sample buffers or an odd phase group of sample buffers based on the phase of a particular digital sample;

providing digital samples from the even phase group of sample buffers or the odd phase group of sample buffers to a demodulator as needed by the demodulator; and

providing digital samples from the even phase group of sample buffers or the odd phase group of sample buffers to a searcher when not needed by the demodulator.

14. (Previously Presented) The method of claim 13, further comprising entering a power down state upon providing a sufficient number of digital samples to the searcher.

15. (Original) The method of claim 14, further comprising leaving the power down state when a new block of data is available.